

What is claimed is:

1. A method of using a computer system as a telemicroscope, comprising:
  - (a) capturing a first image corresponding to an area of a specimen with a digital image capturing device;
  - (b) capturing at least one second image corresponding to a selected area of the first image, said second image having a different magnification from the first image;
  - (c) storing the first and second images in a computer-readable medium; and
  - (d) generating a linking information map indicating the relationship between said first and second images.
2. The method of claim 1, wherein said capturing of second image is performed a plurality of times on different selected areas of the specimen, wherein the linking information map links the first image to each of the plurality of second images.
3. The method of claim 2, further comprising choosing a desired area of the first image for obtaining a corresponding magnified second image thereof after said generating of the linking information map.
4. The method of claim 3, wherein the linking information map facilitates the viewing of a desired area of the specimen by providing the appropriate second image linked to said desired area of the first image.
5. The method of claim 4, wherein said first and second images are stored in a similar format, wherein said format is one of JPG, GIF, TIF or BMP.
6. The method of claim 4, wherein said first image is stored in a format chosen from a group consisting of JPG, GIF, TIF and BMP.

7. The method of claim 4, wherein said second image is stored in a format chosen from a group consisting of JPG, GIF, TIF and BMP.
8. The method of claim 5, further comprising storing of the information map in said computer-readable medium.
9. The method of claim 8, wherein said computer-readable medium is one of computer hard drive, portable disk or CD.
10. The method of claim 8, wherein said computer-readable medium is a web server.
11. The method of claim 8, wherein the digital image capturing device is a digital camera.
12. The method of claim 8, wherein the digital image capturing device is a scanner.
13. A method of using a computer system as a telemicroscope, comprising:
  - (a) capturing a plurality of images corresponding to different segments of a specimen with a digital image capturing device, said images having different magnification levels;
  - (b) generating a linking information map for said images of the specimen indicating relationships between said images of the different segments of the specimen; and
  - (c) storing said images and linking information map in a computer-readable medium, wherein the information map allows a user to view said specimen under different magnification levels.
14. The method of claim 13, wherein the linking information map facilitates viewing of a desired segment of the specimen by providing the appropriate image corresponding to the desired magnification level of said desired segment of said image.

15. The method of claim 14, further including posting the images and the information map to a network for allowing a remote user to access said images and said information map after said storing.
16. The method of claim 14, further including sending the images and the information map to a remote user via an e-mail for allowing the remote user to access said images and said linking information map after said storing.
17. The method of claim 14, wherein said images are stored in a similar format, wherein said format is one of JPG, GIF, TIF or BMP.
18. The method of claim 14, wherein the digital image capturing device is a digital camera.
19. The method of claim 14, wherein the digital image capturing device is a scanner.
20. A method of using a computer system as a telemicroscope comprising:
  - (a) storing a captured first image of a specimen electronically, wherein the first image includes the entire specimen, said first image captured with a digital image capturing device;
  - (b) storing a captured second image of the specimen electronically, wherein the second image includes a smaller area of the specimen and has a higher magnification level than said first image, said second image captured with a digital image capturing device; and
  - (c) generating an information map for linking said first image with said second image, wherein said information map allows a user to view a magnification of a selected area of said first image by uploading the appropriate second image that corresponds to said selected area.

21. The method of claim 20, further including sending the images and the information map to a remote user via an e-mail for allowing the remote user to access said images and said information map after said storing.
22. The method of claim 20, wherein said first image and said second image are each stored in a similar format, wherein said format is one of JPG, GIF, TIF or BMP.
23. The method of claim 22, where said first image and said second image are stored on a computer-readable medium.
24. The method of claim 20, further including, compiling the information map, after said storing of said captured second image.
25. The method of claim 24, wherein the information map is stored on a computer-readable medium.
26. A method of using a computer system as a telemicroscope comprising:
- (a) receiving from a user a location for an index file, said index file stored on a computer-readable medium;
  - (b) retrieving said index file, said index file listing a plurality of image files, wherein each of said image file has an image of a specimen and map information of linked images;
  - (c) displaying on the monitor screen of the user's computer system the listing of the plurality of image files from the index file;
  - (d) receiving from the user a first file name comprising an image of the entire specimen, wherein the first file name is linked to a second file name comprising an image of a selected area of the specimen, wherein said image of said second file name has a different magnification level from the image in said first file name; and

(e) displaying dynamically the images of said first and second file name allowing a user to view the specimen with different magnification levels of the specimen.

27. The method of claim 26, wherein the location of said index file is selected from a group consisting of an Internet URL, a path of an intranet, and a local file.

28. The method of claim 26, wherein said displaying includes providing a tool bar on the monitor screen of the computer system for allowing a user to select different viewing and navigation options.

29. The method of claim 28, wherein said tool bar provides a magnifying means to view the specimen.

30. The method of claim 29, wherein said magnifying means magnifies the specimen between 1.5 and 5 times from the displayed image on the screen without losing resolution.

31. The method of claim 29, wherein said magnifying means comprises a movable virtual lens for allowing the user to adjust the magnification level and select the section of the specimen being magnified thereby dynamically displaying the magnified portion of the image on the entire screen.

32. The method of claim 31, wherein the movable virtual lens is a viewing window on a monitor of said computer system.

33. The method of claim 29, wherein said magnifying means is a virtual microscope with a virtual slide that allows a user to view the specimen, wherein said virtual microscope is provided with a virtual objective lens which is situated on top of said virtual slide thereby allowing the encased area within the virtual objective lens to be enlarged onto the entire monitor screen dynamically and allowing the user to adjust the magnification level.

34. The method of claim 33, wherein said virtual objective lens is movable on a monitor screen of said computer system to allow said objective lens to move around on said virtual slide thereby dynamically displaying the enlarged portion of the image on the entire screen.
35. The method of claim 33, the magnification capacity of said virtual objective lens is up to 200 from the original size of said specimen.
36. The method of claim 26, further comprising receiving a communication request from a user to discuss the specimen with another user, said communication request received via a communication means.
37. The method of claim 36, wherein said communication means is selected from a group consisting of e-mail, video conferencing, whiteboard image sharing, chat room, and Internet telephony.
38. A method of using a computer system as a telemicroscope comprising:
- (a) capturing a plurality of images of a specimen, wherein the images correspond to an entire specimen and a plurality of segments of said specimen, wherein images corresponding to said plurality of segments have different magnification levels;
  - (b) generating a linking map between said images wherein said linking map comprises information regarding geographical location of the images in relation to the specimen's structure; and
  - (c) transmitting said images and said linking map to a remote user via a computer network thereby allowing the user to view the images with different magnification levels.

39. The method of claim 38, wherein said plurality of images are captured with a digital image capturing device.
40. The method of claim 39, further including storing said images and said linking map on an electronic medium.
41. The method of claim 40, wherein said transmitting comprises encrypting said images and said linking map.
42. The method of claim 41, wherein the computer network is selected from a group consisting of an Internet, intranet, and a local area network.
43. A system for using a computer system as a telemicroscope, comprising:
- (a) a memory unit;
  - (b) a processing unit in communication with said memory unit, wherein said processing unit is configured to:
    - i. capture a first image corresponding to an area of a specimen;
    - ii. capture at least one second image corresponding to a selected area of said first image, said second image having a different magnification from the first image;
    - iii. store the first and second images in a computer-readable medium; and
    - iv. generate a linking information map indicating the relationship between said first and second images.
44. The system of claim 43, further comprising a digital image capturing device for capturing said first image and second image, said digital image capturing device in communication with said processor unit.

45. The system of claim 44, wherein said digital image capturing device is a digital camera.

46. The system of claim 44, wherein said digital image capturing device is a scanner.

47. A system for using a computer system as a telemicroscope, comprising:

(a) a memory unit;

(b) a processing unit in communication with said memory unit, wherein said

processing unit is configured to:

i. receive a location for an index file, said index file stored on said memory

unit;

ii. retrieve said index file, said index file listing a plurality of image files,

wherein each of said image file has an image of a specimen;

iii. display the listing of the plurality of image files from the index file;

iv. receive a first file comprising an entire background image of the

specimen;

v. receive a first file comprising an image of a portion of the specimen,

wherein said image in said second file has a different magnification level from the image in said

first file; and

vi. display the image of said first file and the image of said second file for

allowing a user to view the specimen with different magnification levels of the specimen.

48. A system for using a computer system as a telemicroscope, comprising:

(c) a memory unit;

(d) a processing unit in communication with said memory unit, wherein said

processing unit is configured to:



- i. capture a plurality of images of a specimen, wherein the images correspond to the entire specimen and a plurality of segments of said specimen, wherein images corresponding to said plurality of segments have different magnification levels;
- ii. generate a linking map between said images wherein said linking map comprises information regarding geographical location of the images in relation to the specimen's structure; and
- iii. transmit said images and said linking map to a remote user via a computer network thereby allowing the user to view the images with different magnification levels.

49. A system for using a computer system as a telemicroscope, comprising:

- (a) means for capturing a first image corresponding to an area of a specimen with a digital image capturing device;
  - (b) means for capturing at least one second image corresponding to a selected area of the first image, said second image having a different magnification from the first image;
  - (c) means for storing the first and second images in a computer-readable medium;
- and
- (d) means for generating a linking information map indicating the relationship between said first and second images.

50. A system for using a computer system as a telemicroscope, comprising:

- (a) means for receiving a location for an index file, said index file stored on a computer-readable medium;
- (b) means for retrieving said index file, said index file listing a plurality of image files, wherein each of said image file has an image of a specimen;

(c) means for displaying the listing of the plurality of image files from the index file;

(d) means for receiving a first file comprising an image of the entire specimen,

wherein the first file is linked to a second file comprising an image of a portion of the specimen, wherein said the image in said second file has a different magnification level from the image in said first file; and

(e) means for displaying the image of said first file and the image of said second file for allowing a user to view the specimen with different magnification levels of the specimen.

51. A system for using a computer system as a telemicroscope, comprising:

(a) means for capturing a plurality of images of a specimen, wherein the images correspond to the entire specimen and a plurality of segments of said specimen, wherein images corresponding to said plurality of segments have different magnification levels;

(b) means for generating a linking map between said images wherein said linking map comprises information regarding geographical location of the images in relation to the specimen's structure; and

(c) means for transmitting said images and said linking map to a remote user via a computer network thereby allowing the user to view the images with different magnification levels.

52. A computer-readable medium comprising:

(a) instruction code for capturing a first image corresponding to an area of a specimen with a digital image capturing device;

(b) instruction code for capturing at least one second image corresponding to a selected area of the first image, said second image having a different magnification from the first image;

(c) instruction code for storing the first and second images in a computer-readable medium; and

(d) instruction code for generating a linking information map indicating the relationship between said first and second images.

53. A computer-readable medium comprising:

(a) instruction code for receiving a location for an index file, said index file stored on a computer-readable medium;

(b) instruction code for retrieving said index file, said index file listing a plurality of image files, wherein each of said image file has an image of a specimen;

(c) instruction code for displaying the listing of the plurality of image files from the index file;

(d) instruction code for receiving a first file comprising an image of the entire specimen, wherein the first file is linked to a second file comprising an image of a portion of the specimen, wherein said the image in said second file has a different magnification level from the image in said first file; and

(e) instruction code for displaying the image of said first file and the image of said second file for allowing a user to view the specimen with different magnification levels of the specimen.

54. The method of claim 28, wherein said tool bar provides a measurement function thereby enabling the user to directly measure the images on the monitor screen.

55. The method of claim 54, wherein the measurement function enables a user to calibrate a measuring unit by referring to a known distance of the specimen thereby ensuring an accurate reading of distances on the monitor screen at any magnifications of the original image.

56. The method of claim 54, wherein said tool bar provides an image database linkage thereby enabling the user to compare the images instantly by retrieving the images from said database.

57. The method of claim 55, wherein said database is located remotely from the user's computer and connected to the user's computer through a computer network.

58. The method of claim 54, wherein said tool bar provides a text data association function thereby allowing the user to associate the text data to the images for a future reference.